

19. The decorative material of claim 16 or 17, wherein the molecularly oriented film represents a layer of an organic substance comprising thermotropic liquid crystals having a temperature of transition from solid to LC state above the ambient temperature.

20. A decorative material, comprising
a polarizer having a controlled direction of polarization axis;
a reflecting layer; and
phase-shifting plates placed between the polarizer and the reflecting layer, wherein the phase-shifting plates represent a continuous layer of an optically anisotropic material containing regions differing by value of phase shift and/or direction of fast optical axis.

REMARKS

The first inventor's name is incorrect in the Patent Office records. Please change his last name to Bobrov. Enclosed is the application transmittal along with the first page of the application as evidence that the name of the inventor was submitted correctly. The error is a Patent Office error and no fee should be required for the correction.

Restriction is required as to one of the inventions, claims 1-7 and claims 8-10. Claims 1-4 and 7 are rejected under 35 U.S.C. 102. Claims 5 and 6 are rejected under 35 U.S.C. 103. Claims 8-10 are subject to election requirement.

Claims 1-10 are canceled with this Amendment. Rather than extensively amend claims 1-7, they have been rewritten as claims 11-20. No new matter is introduced by this Amendment. As a preliminary matter, claims 11-20 are pending in this application.

Election/Restriction Requirements:

Restriction is required as to one of the following inventions under 35 U.S.C. 121:

Group I. Claims 1-7, drawn to a product, classified in class 428, subclass 34.1+; or

Group II. Claims 8-10, drawn to a method, classified in class 264, subclass 165+.

A provisional election was made on June 28, 2001 during a telephone conversation with the Examiner to prosecute the invention of Group I, Claims 1-7 (now claims 11-20). Applicant hereby affirms the election without traverse.

Claim Rejections under §102:

Claims 1-4 and 7 (now claims 11-15 and 20) are rejected under 35 U.S.C. §102(b) as being anticipated by WO 91/15800 to Makow. Applicant respectfully traverses the rejections because Makow does not teach each of the elements recited in these claims.

Makow describes an electro-optic cell for animated displays and indicators. In particular, Makow describes an electro-optic cell which includes two *non-parallel or slanted* electrodes with respect to each other. The variation of spacing between the electrodes across the cell varies the electric field and thus the distribution of the lighted area of the cell. However, Makow does not teach a polarizer having a controlled direction of polarization axis, and phase-shifting plates representing a continuous layer of an optically anisotropic material containing regions differing by value of phase shift and/or direction of fast optical axis as recited in claims 1-4 and 7 (now claims 11-15 and 20).

In particular, page 7 line 34 -page 8 line 2 of Makow describes that two electrodes (number 2 in Figures 1-3) are *non-parallel or slanted* respect to each other at a small angle. It does not teach two polarizers each having a controlled direction of *polarization axis* as recited in claim 1 (now claim 11). The electrodes of Makow are connected to a voltage source 6 for providing electric field for the electro-optic cell. In contrast, the polarizers of the present invention produce polarized light.

Page 6 lines 1-3 of Makow describes that *one of the two electrodes* is concave thus the angle of the slant and the spacing between the two electrodes are variable. It does not teach *phase shifting plates representing a continuous layer of an optically anisotropic material containing regions differing by value of phase shift and/or direction of fast optical axis* as recited in claim 1 (now claim 11). Similarly, page 9 lines 29-30 describes a variable spacing between two electrodes. It does not teach phase shifting plates having different orientation of optical axes.

Page 13 line 2-page 14 line 16 describes a nematic LC material. It does not teach a optically anisotropic material containing *regions differing by value of phase shift and/or direction of fast optical axis*.

In essence, Makow teaches two *non-parallel or slanted electrodes* (which are not *polarizers*) so that the variation of spacing between the electrodes across the cell varies the *electric field and thus the distribution of the lighted area of the cell*. See Makow's Abstract. Makow does not teach *two polarizers each having a controlled direction of polarization axis*,

and phase shifting plates containing regions differing by value of phase shift and/or direction of fast optical axis as recited in claim 1 (now claim 11) and indicated in Figure 1 of the present invention.

Claims 2-4 (now claims 12-15) further recite limitations to claim 1 (now claim 11). Claims 2-4 (now claims 12-15) are therefore novel over Makow for at least the same reason as for claim 1 (now claim 11). Furthermore, as to the rejections of claim 2 (now claim 12), page 7 lines 22-25 of Makow describes a liquid crystal material; it does not teach that an optically anisotropic material represents *a molecularly orientated film deposited onto an optically isotropic material* as recited in claim 2 (now claim 12). As to the rejections of claim 3 (now claim 13), reference number 2 in Figure 1 of Makow represents two electrodes, not polarizers as asserted; reference number 5 in Figure 1 of Makow represents spacers, not phase shifting plates as asserted; page 11 lines 25-28 of Makow describes electrodes being treated, coated, or attached to at least one layer for operation of the cell or protection of the electrodes, not one or both polarizers containing several elements differing by the directions of their polarization axes as asserted. As to rejections of claim 4 (now claims 14-15), page 17 lines 18-30 of Makow does not teach a transparent vessel filled with a transparent or weakly colored medium as recited in claim 4 (now claims 14-15) of the present invention.

Claim 7 (now claim 20) is novel over Makow for at least the same reasons as for claim 1 (now claim 11).

Therefore, reconsideration of the rejections under 35 U.S.C. 102(b) is respectfully requested.

Claim Rejections under §103(a):

Claims 5 and 6 (now claims 16-19) are rejected under 35 U.S.C. §103(a) as being unpatentable over WO 91/15800 to Makow in view of U.S. Patent No. 3,965,030 to Jones et al (hereafter "Jones") Applicant respectfully traverses the rejections.

As stated above, Makow describes an electro-optic cell for animated displays and indicators. Makow does not teach or reasonably suggest a decorative material comprising two polarizers each having a controlled direction of polarization axis, and phase shifting plates containing regions differing by value of phase shift and/or direction of fast optical axis.

Jones describes a display device in which a thin layer of a lyotropic mesomorphic composition 50 is utilized to diffuse light. Col. 3 lines 8-68 and Figure 1 of Jones. However,

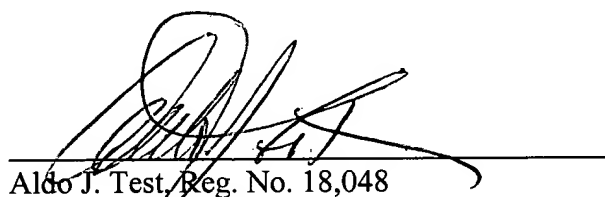
Jones does not teach or reasonably suggest a polarizer, nor phase shifting plates containing regions differing by value of phase shift and/or direction of fast optical axis as recited in claim 1 (now claim 11) of the present invention. Because neither Makow nor Jones teach or reasonably suggest a decorative material comprising the polarizers and phase-shifting plates as recited in claims 1-7 (now claims 11-20) of the present invention, any combination of Makow and Jones, of which Applicant believes one of the ordinary skill would not make, will not arrive at a decorative material comprising two polarizers each having a controlled direction of polarization axis, and phase shifting plates containing regions differing by value of phase shift and/or direction of fast optical axis.

Reconsideration of the rejections under 35 U.S.C. 103(a) of claims 5 and 6 (now claims 11-20) are therefore respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made".

Based on the foregoing, Applicant respectfully submits that the application is now in condition for allowance. If any matters can be resolved by telephone, the Examiner is invited to call the undersigned attorney at the telephone number listed below. The Commissioner is authorized to charge any additional fees to Deposit Account No. 06-1300 (Order No. A-70977/AJT).

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

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TC 1700

In the Inventors:

The first inventor's last name is [BABROV] BOBROV.

In the Claims:

Cancel claims 1-10 and add the following new claims 11-20:

11. (New) A decorative material, comprising:
two polarizers, wherein each polarizer has a controlled direction of polarization axis; and
phase-shifting plates placed between the polarizers, wherein the phase-shifting plates represent a continuous layer of an optically anisotropic material containing regions differing by value of phase shift and/or direction of fast optical axis.
12. (New) The decorative material of claim 11, wherein the optically anisotropic material represents a molecularly oriented film deposited onto an optically isotropic base.
13. (New) A decorative material, comprising:
two polarizers, wherein each polarizer has a controlled direction of polarization axis, and at least one of the polarizers contains several elements differing by directions of their polarization axes; and
phase-shifting plates placed between the polarizers, wherein the phase-shifting plates represent a continuous layer of a homogeneous optical anisotropic material.
14. (New) The decorative material of claim 11 or 13, wherein the anisotropic film is placed in a transparent vessel filled with a transparent or weakly colored liquid medium, and the polarizers are placed in the inner surface of the vessel.

15. (New) The decorative material of claim 11 or 13, wherein the anisotropic film is placed in a transparent vessel filled with a transparent or weakly colored liquid medium, and the polarizers are placed in the outer surface of the vessel.

16. (New) The decorative material of claim 13, wherein at least one of the polarizers represents a film of molecularly oriented organic substance deposited immediately onto an optically anisotropic material.

17. (New) The decorative material of claim 13, wherein at least one of the polarizers represents a film of molecularly oriented organic substance deposited onto a transparent sublayer predeposited onto a surface of an anisotropic material.

18. (New) The decorative material of claim 16 or 17, wherein the molecularly oriented film represents a layer of an organic substance comprising lyotropic liquid crystals.

19. (New) The decorative material of claim 16 or 17, wherein the molecularly oriented film represents a layer of an organic substance comprising thermotropic liquid crystals having a temperature of transition from solid to LC state above the ambient temperature.

20. (New) A decorative material, comprising
a polarizer having a controlled direction of polarization axis;
a reflecting layer; and
phase-shifting plates placed between the polarizer and the reflecting layer, wherein the phase-shifting plates represent a continuous layer of an optically anisotropic material containing regions differing by value of phase shift and/or direction of fast optical axis.